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ABSTRACT

The range of meanings of "big" and "little" that mothers and their three children under age two expressed in relatively natural communication situations was studied. Longitudinal data from transcripts of conversations of middle-class mothers and their children were analyzed along with diary records kept by parents of their children's use of size words for three months or longer. Size words included "big," "little," and "tiny." The distribution of uses for mothers and children were similar, indicating that children are exposed to and begin to use these terms in a variety of ways at a very early age. For both groups, at least half of the uses of "big" and "little" clearly referred to physical size or size relationships among objects. References to isolated objects were the most typical use for both groups. In addition, both mothers and children used whole phrases containing size words to comment on aspects of objects or situations that were not necessarily size-related. Despite their similarity to mothers, children appeared to be doing more than imitating input from others. The two groups were distinguished by their choice of size words. Mothers relied almost exclusively on "big" and "little" while children used a variety of terms. Evidence was found in support of integrating the exemplar and feature approaches that are used to characterize the acquisition of dimensional terms. The findings suggest that abstraction processes and the use of exemplars are closely intertwined in learning word meanings. (SW)

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EARLY USES OF BIG AND LITTLE BY MOTHERS AND CHILDREN

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The way in which children come to understand and use dimensional adjectives such as big and little has interested child language researchers for some time. Two approaches have been proposed to account for this development. According to the semantic feature approach, which has been dominant in the field, mature word meanings are defined as sets of abstract meaning components or features which children acquire gradually (see Clark 1972, 1973 for further discussion). Most of the research undertaken from this perspective has been experimental and theoretical (Eilers, Oller & Ellington, 1974; Bartlett, 1976) rather than descriptive.

More recently, investigators have suggested that the abstraction of central features may be a later developing phenomenon, and that children initially learn word meanings through experiences with individual examplars (Carey, 1977; Keil & Carroll, 1980). Only a few researchers have attempted to test this proposal directly, and the studies that have been reported are also experimental with a theoretical focus.

Relatively little descriptive information is available, especially with regard to the original acquisition of big and little, which typically appear between the ages of one and three years. Braine (1976) has reported that his son Jonathan used big and little in pivot-type constructions during Early Stage I, and Brown's data show consistent use from Stage II onward (Brown, 1973). Other evidence suggests that mastery of these terms is a gradual and extended process (Maratsos, 1973; Carey, cited in DeVilliers & DeVilliers, 1978).

Rogers (1978) gathered descriptive data on mothers' use of a variety of size terms in an effort to demonstrate how parental speech might facilitate semantic development. Interpretation of his findings is constrained by the absence of data on children's performance and by the limited number of observations. Relatively little attention has been directed toward the everyday contexts within which language-learning children hear and use dimensional terms.

The current study was undertaken with two objectives. First, the range of meanings of big and little that several mothers and their children below the age of two years express in relatively natural communication situations will be described. Second, the observations will be discussed in terms of their theoretical implications for semantic feature and exemplar approaches.

METHOD

This study was conducted in two phases. First, longitudinal data on three middle-class mothers using big and little in conversation with their children were obtained from transcripts of mother-child interaction in everyday situations (Lord, 1976). Monthly sessions were held from the time the children were six to 30 months old. Two of the children were first borns. Mean length of utterance (MLU) data on children's language were calculated for each session. Children's uses of size words were also recorded.

During the second phase, parents of three girls from middle-class families were asked to keep diary records of their children's use of size words for three months or longer. Size words included big, little, tiny or other more idiosyncratic words. Parents were asked to record instances as they occurred, to specify the context, and to refrain from coaching their children on the use of size terms. All three girls were only children. Monthly home visits were made to collect language samples and to clarify recent diary entries. The children's MLU stages and chronological ages are reported for the three mothers and six children in Table 1.

The instances of mothers and children using big and little were classified into one of eight empirically-derived categories. Inter-rater agreement for 100 instances was .89. Definitions and sample responses in each category are presented in Table 2.

RESULTS

Mothers' uses of big and little. A total of 260 instances of big and little were collected for mothers during the 24 month period, ranging from an average of 2.4 to 4.4 instances per hourly long session. Two mothers used little twice as often as big (66%, 71%) in accordance with frequency norms on adult usage (Kucera & Francis, 1967). The third mother used the terms approximately equally. For all the mothers, the use of suffixes (-er, -est) or other size words was quite rare (1-3%).

All utterances were classifiable, falling into six to eight categories across mothers. The distribution of usage was similar across mothers (see Table 3). At least half of the uses of big and little clearly referred to physical size or size relationships. Contrastive references were the most frequent, ranging from 25 to 52% across mothers. Mothers used comparative size references much less frequently (range = 0 to 14%). The use of big and little to describe fitting relationships was also relatively infrequent, consisting of 0 to 12% of observations across mothers. When mothers did use size terms to describe fitting, they typically labeled the referent clearly, giving the children unambiguous information about which aspect of the situation was too big or too small (e.g., Those leotards are too big).

Table 1. Children's MLU stages and ages reported for mothers and children

	Source	Number of Utterances[a]	MLU range[b]	Child's age[c]
Mother				
A	transcript	104	PV-III	6-30
B	transcript	99	PV-III	6-30
C	transcript	57	PV-V	6-30
Child				
A	transcript	5	I-III	24-29
B	transcript	13	I-III	18-29
C	transcript	25	III-V	24-29
D	diary	99	I	18-21
E	diary	115	II-III	22-24
F	diary	277	I-V	15-22

[a] containing size references
[b] PV=preverbal, I=MLU 1.0 to 2.0, II=MLU 2.0 to 2.5, III=MLU 2.5 to 3.0, IV=MLU 3.0 to 3.5, V=MLU 3.5 to 4.0
[c] in months

Table 3. Mothers' uses of big and little by category

Mother	N	Contrastive	Comparative	Fitting	Routine	Age	Duration	Extent	Affection
A	104	55	4	13	6	7	4	7	8
B	99	26	0	6	31	10	1	8	17
C	57	28	8	0	5	7	0	2	7

Table 4. Children's uses of big and little by category

Child	N	Contrastive	Comparative	Fitting	Routine	Age	Duration	Extent	Affection
D	94	28	15	0	40	3	0	0	8
E	115	42	20	3	13	1	7	28	1
F	277	102	74	22	2	22	11	36	8

Table 2. Definitions and sample responses by category

1. Contrastive size: referred to the size of an object or person in isolation
   - Mothers: Did we see a big snowman this morning
     Looks like a little birdie
   - Children: Gobble, gobble, that's a big chicken
     Big Santa

2. Comparative size: referred to the size of an object or person when different-sized objects of the same class were present
   - Mothers: This one's smaller
     Let's do the big one first
   - Children: There's big George, there's little George
     Big Angel

3. Fitting: referred to two different objects in relation to one another (this includes clothing)
   - Mothers: I think those leotards are too big
     Your nose is too little
   - Children: Oh too small
     I'm too big

4. Routine: referred to language games, songs or proper names
   - Mothers: This little piggy went to market
     Are you so BIG today
   - Children: Twinkle, twinkle little star
     Big Bird

5. Age: referred to being grownup, to accomplishment, or to being able to do certain things in the future
   - Mothers: Remember you've got big boy pants on
     Mommy used to have a teddy bear like that when she was a little girl
   - Children: Big girl
     When I get bigger I can open it

6. Duration: referred to temporal extent
   - Mothers: How about talking a little
     We'll go out in a little while
   - Children: A little more rock rock in da chair please
     I call Mrs. Natalie a little bit

7. Extent: referred to intensity or degree
   - Mothers: You have to be a little careful
     Turn it around a little bit
   - Children: Reuben's a little angry
     That's a little hot

8. Affection: expressed tenderness
   - Mothers: Are you my little grubbo
     His mommy's big little helper
   - Children: Hi big daddy
     Little baby Michael

The meaning of big and little was not necessarily limited to objects with dimensionality but often referred to aspects of objects or situations which were not directly observable. Mothers' uses of size words to express affection and duration were especially skewed toward the use of little. References to extent and duration tended to be expressed in whole phrases such as a little bit or a little while. For age references, age and physical size were often confounded. However, these references did not appear to be straightforward physical descriptions. During the same session, a mother might prohibit an activity saying not for little girls and subsequently engage the child in a routine game, saying are you big.

Children's uses of big and little. Because the transcripts provided a relatively low number of instances for individual children, the transcript data for children will not be presented here. In the most frequent case, 25 instances were recorded, and this child resembled the three children with diary records.

A total of 505 instances of big and little were collected for three children using parental diaries. The children were remarkably similar in terms of the average number of instances they produced on a daily basis over the course of the study (range = 1.1 to 1.3). These estimates are probably low because observations were not made during the hours their parents were working.

All three children used size words at a very early age with some variability in word choice and developmental timetables. The children's size terms included big, bigger, little, teeny, small and baby. Evidence that baby referred to size rather than to infants was suggested by one child's ability to follow commands and by her tendency to substitute baby for little when imitating others. For this child, the consistent use of big and baby began in Early Stage I although these productions referred somewhat repetitiously to toys (i.e., Big Doggie, Baby Doggie). Only in Late Stage I did she extend the same terms to a wider range of referents. This child was the only one to show production asymmetry, using big three times as often as little. The other two children used big and little (or variants of little) consistently and in equal proportions from Stage II on.

Ninety-six percent of the instances were classifiable (range = 95 to 99%) falling into most of the categories for the children. The overall distribution was roughly comparable to that for mothers (see Table 4), although some exceptions were noted. References to isolated objects were the most typical use for individual children (range = 30 to 37%) as they were for mothers. Comparative uses occupied a higher proportion of children's uses in comparison to mothers, ranging from 16 to 27% across children.

The children also used big and little to refer to aspects of ob-

jects and situations which were not directly observable. As with the mothers, most of their references to extent and duration were expressed with whole phrases. References to age and affection were quite rare.

Children's errors. Although the children typically used size terms appropriately, they made several kinds of errors. One child comprehended the word little long before she used it productively, and continued to substitute baby for little over at least a five month period. A second child had difficulty in labeling the sizes of relatively small and nondescript objects such as rocks and shells as shown by errors in 15% of her contrastive references. Although overgeneralization errors were quite infrequent, instances such as big hot for very hot did occur.

The most striking error pattern was found in children's expressions of fitting relationships. Although most examples of fitting errors were obtained from one child (22 of 28 instances), the pattern of responses shown by all of the children was similar. Initially the children relied on one expression regardless of the situation (e.g., too big). In addition, they almost always failed to specify a referent. Later, referents were specified, though not necessarily correctly (e.g., Jammies too big regarding tight pajamas). By Stage V most productions were semantically correct, although problems with details of linguistic expression were still apparent (e.g., I too bigger).

DISCUSSION

The purpose of this study was to explore the range of meanings of big and little expressed by mothers and young children using longitudinal observations from interaction sessions and parental diaries. The distributions of uses for mothers and children were quite similar, indicating that children are exposed to and begin to use these terms in a variety of ways at a very early age. For both groups, at least half of the uses of big and little clearly referred to physical size or size relationships among objects. References to isolated objects were the most typical use for both groups. In addition, both mothers and children used whole phrases containing size words to comment on aspects of objects or situations which were not necessarily size-related.

Despite their similarity to mothers, children appeared to be doing more than imitating input from others. First, the two groups were distinguished by their choice of size words. Mothers relied almost exclusively on big and little while children used a variety of terms. Second, mothers tended to use little more often than big. Children used the words in equal proportions, although one child showed a preference for big. These findings do not support a universal semantic preference for the unmarked term. It may be that the saliience of big to children who see the world from a Lilliputian perspective

contributes to their relatively greater emphasis on big. Third, all three children in this study showed a higher proportion of comparative uses in comparison to mothers. It may be that children who are in the process of learning language are more likely to comment on size differences in order to practice the linguistic expression of size concepts. This may, in turn, pave the way for the emergence of true comparative forms. Fourth, children and mothers also differed in their expression of fitting relationships. Children made errors which did not appear to reflect confusing input from mothers. The later development of fitting relationships suggests that some applications of size terms may be more difficult than others. Correct descriptions may have several requirements. Using the word too in conjunction with a dimensional term is necessary. In addition, the child must select one aspect of the situation to label and then to choose the correct label. The data here suggest that, at least for one child, several steps may be involved. This view corresponds somewhat to recent experimental work that also characterizes the mastery of dimensional terms as a series of steps affected by context (Carey, 1978; cited in DeVilliers & DeVilliers, 1978).

The differences evident among children in terms of word choice, the time of first appearance of dimensional terms and kinds of errors indicated that there may be various routes to mastery of size terms. For one child, size words were first applied in the rather narrow sense that Braine (1976) has described as limited-scope formulas. The other two children seemed to acquire both terms spontaneously and applied them to a broad range of referents quite rapidly.

These descriptive data have some implications for the theoretical approaches that have been proposed. Children's ability to apply big and little to a wide variety of referents across a number of categories with relatively few errors suggests that some abstraction of a concept of extent does occur. Production errors which violate standard usage (e.g., big hot) and children's focus on comparatives also imply an abstract concept involving both ends of a size continuum. However, the single feature of "physical extent" may not be sufficient to fully characterize children's understanding of the various applications of these terms or to account for an extended acquisition period. In terms of input, one might expect mothers to facilitate acquisition of an abstract feature by pointing out both ends of the size continuum with successive labels for similar objects. This typically did not occur.

In some respects, the data here fit quite well with an exemplar interpretation. The input from mothers consisted primarily of references to the sizes of isolated objects or single exemplars. The restricted range of application for one child in particular might be explained by her familiarity with a small set of exemplars. Children's use of phrases which were probably learned as unanalyzed wholes also fits with an exemplar view. However, an exemplar approach might pre-

dict a longer and more error-riddled acquisition phase. Some aspects of acquisition were quite rapid. Children's ability to use size terms creatively also suggests that some degree of dimensional abstraction is possible at an early age.

This study provides evidence in support of an integration of the two major approaches used to characterize the acquisition of dimensional terms. Of course, exemplar and feature approaches are not actually as divergent as they have been represented here. Advocates of exemplar approaches acknowledge that abstraction is involved, but give more emphasis to the experiences which might lead to such abstraction. Carey (1977) maintains that children represent information about familiar exemplars in addition to abstract features. In summary, it appears that abstraction processes and the use of exemplars are closely intertwined in learning word meanings. Only production data were examined here. It will be necessary to examine children's performance on experimental and comprehension tasks as well in order to explore further the effects of context on the acquisition of dimensional adjectives.

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